DEPARTMENT OF THE AIR FORCE
Headquarters US Air Force
Washington DC 20310-2500

ANG REGULATION 85-2

20 December 1984

Civil Engineering-General

OPERATION AND MAINTENANCE OF AIRCRAFT ARRESTING SYSTEMS

This regulation establishes standards and procedures for operating and maintaining aircraft arresting systems within the Air National Guard. It is applicable to all elements of the base civil engineering function having maintenance or operational responsibility for the aircraft arresting system(s).

1. Responsibilities:

a. Base civil engineer (BCE):

(1) For assuring the full implementation and effective use of this regulation.

(2) For providing technical assistance pertinent to aircraft arresting systems.

b. Power production supervisor:

(1) For performing aircraft arresting system maintenance and repair.

(2) For instructing and certifying qualified aircraft arresting system augmentee personnel.

(3) For performing all inspections in compliance with the applicable technical orders (TO) for the system(s).

2. Procedures:

a. All barriers will be configured and operated as arresting systems IAW AFR 55-42. No unauthorized modifications will be made.

b. The power production supervisor will ensure that all aircraft arresting system personnel are properly trained.

c. The BCE or the BCE designee will transmit training requirements to the power production supervisor through the training NCO and ensure that sufficient aircraft arresting system trained personnel are available to accomplish the required task.

d. The power production supervisor will maintain records of each aircraft arresting system training class, which will include the names of attendees and instructor and the date of the instruction. When the trainee has attained the required level of proficiency, an AF Form 483, Certificate of Competency, will be issued by the power production supervisor who will maintain a log of these forms issued. See attachments 6 and 7.

e. During aircraft arresting system maintenance and/or operation activity, at least one person performing the activity shall have a current AF Form 483.

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f. The possibility of exposure to airborne asbestos fiber exists in the brake area after engagement. Therefore, when entering the brake area to reset the arresting system, a NIOSH-approved high efficiency particulate filter respirator, as specified by AFOSH Standards 161-1 and 161-4, will be worn. If a bioenvironmental engineering evaluation has been made to show that ventilation is adequate and exposure to asbestos is not a problem, the requirement for wearing the respirator can be deleted locally (mask stock numbers FSN 4240-00-501-7540 for permanent and FSN 4240-01-074-8390 for disposable).

g. Supervisor will ensure that all qualified power technicians (542X2) are awarded special experience identifier (SEI) 331 (reference AFR 39-1). Requirements for the award of SEI 331 include:

(1) 3 months' experience on BAK-12.

(2) Completion of a five-level training course that includes aircraft arresting system.

(3) Recommendation by the supervisor indicated on AF Form 2095, Assignment/Personnel Action.

b. The power production supervisor is responsible for establishing and maintaining a spare parts' inventory adequate to assure the constant availability/reliability of the installed aircraft arresting system(s). Base supply will maintain minimum levels of these aircraft system spares, as shown on attachment 1.

(1) The base civil engineer storage point (BCESP) established in base supply is for supporting immediate repairs to the aircraft arresting systems. Items stocked in the BCESP are considered as another warehouse storage location and will be retained in the serviceable balance of the item record until issued. All items stocked in BCESP, regardless of procurement source, will be identified by issue exception code G in the item records.

(2) To assure immediate repairs to aircraft arresting system(s), the BCE will report establishment of minimum levels as contingency support.

i. The power production section will keep records of engagements with copies of the engagement report sent to the base safety officer. Information will include the date and time of action and a description of the event. Each engagement of a BAK-12 or 12/14 system will be documented with the reading of the recording tachometer and pressure gauge and the pilot's estimate of his/her engaging speed (attachment 2).

j. Any barrier deficiency will be reportd to the BCE service call desk for immediate investigation.

k. The power production supervisor will keep records of periodic inspections, repairs, and authorized modifications. Time, date, and a detailed description of the major repairs, parts replaced, etc., made on each barrier will be recorded on AFTO Form 95 by the personnel performing work. The form will be signed by the power production supervisor who will obtain data on BAK-12 or BAK-12/14 engagements (aircraft weight and speed) to determine tape replacement criteria from the appropriate T.O. and post it to the Purchase Tape Historical Record (attachment 3). In addition to the above records, a historical log must be maintained on the arrestor cable and brake system. These records will be maintained for each individual system and accomplished IAW T.O. (attachment 4).

l. Daily inspections of the aircraft arresting system will be accomplished IAW applicable T.O. and recorded in the daily inspection log (attachment 5). Upon completion of the daily inspection, responsible personnel will notify the BCE work control of the daily status of the system, and report any limiting factors.

m. All inspections and maintenance performed on the BAK-12 system require a two-man concept for safety.

n. The 200 feet of runway preceding the approach side of the aircraft arresting system shall not have protruding objects or undulating surfaces that exceed 1/8 inch vertical deviation when tested with a 12-foot straight edge. The runway shall be inspected at least annually. Contact ANGSC/DEM for guidance if needed.

o. The cable clearance on the BAK 14 system will not be less than 2 inches effective pendant height.

p. References:

(1) T.O. 35E8-2-2-1, Operation and Service MA-1.

(2) T.O. 35E8-2-2-4, Illustrated Parts Breakdown MA-1.

(3) T.O. 35E8-2-4-1, Operation, Maintenance Instructions BAK-9.

(4) T.O. 35E8-2-4-4, Illustrated Parts Breakdown BAK-9.

(5) T.O. 35E8-2-5-1, Operation, Maintenance Instructions BAK-12.

(6) T.O. 35E8-2-5-4, Illustrated Parts Breakdown BAK-12.

(7) T.O. 35E8-2-4-IWC-1, Periodic Inspection and Lubrication Workcards, BAK-9.

(8) T.O. 35E8-2-5-WCI-1-1, Periodic Inspection and Lubrication Workcards, BAK-12.

(9) AFR 55-42, Management and Use of Aircraft Arresting Systems.

(10) AC 150/5220-9 FAA AAS for Joint Civil/Military Airports.

(11) T.O. 35E8-2-1-101 U.S.A.F. A.A.S.

(12) T.O. 35E8-2-8-1 BAK-14 O&M.

(13) AFR 55-16, The Air Force Notice to Airmen (NOTAM), System 79-1.

(14) The operation, inspection, and maintenance of the barrier systems will be in conformance with the applicable documents listed above including subsequent revisions and modifications. The BCE is responsible to assure that barrier technical orders, regulations, and OIs are maintained in current status at working level.

BY THE ORDER OF THE SECRETARY OF THE AIR FORCE

EMMETT H. WALKER, Jr., Lieutenant General,USA
Chief, National Guard Bureau

OFFICIAL:

HAROLD R. DENMAN, Colonel, USAF
Executive, National Guard Bureau

BAK-12 Aircraft Arresting System

FSC	NOUN	QTY
1710	Connector	2 ea
1710	Tape	2 ea (Pair)
1710	Cam Control Valve	1 ea
1710	Hub	1 ea
2805	Engine	1 ea
0310	Fluid Coupling	1 ea
3110	Bearing	8 ea
4320	Pump	1 ea
4820	Valve	1 ea
4820	Valve	1 ea
5330	Seals	8 ea
4010	Pendant Cables	100% of installed qty, length as required

BAK-14 Aircraft Arresting System

FSC	NOUN	QTY
1710-00-357-2464	Support	10 blocks (5 recorder pt)
5945-00-243-6403	Armature (Relays)	2 ea
6240-00-155-7857	Lamp Incord (push-to-test)	6 ea
5340-00-001-5351	Rubber Bumper	5 ea
5930-00-187-2651	Mercury Switches	4 ea
1710-00-346-8901	Pin Assembly Block	4 ea
5360-00-676-9133	Block Spring	10 ea
3110-00-211-8718	Camfollower	20 ea
1710-00-346-5078	Camblock	10 ea
1710-00-346-5066	Shaft Latch	10 ea
5945-00-487-6754	Relay, Electrical	2 ea
5920-00-501-1657	Fuses (FRN-2)	4 ea
1710-00-008-7996	Cylinders	2 ea
	Diaphram	2 ea
	Heater, Box	1 ea
	Heater, Trough	1 ea
	Heater, End Trough	1 ea
	Thermostat	2 ea

BARRIER ARRESTMENT WORK SHEET

DATE _____ TIME _____ RUNWAY _____

TYPE AIRCRAFT _____ DISTANCE AFTER CONTACT _____

RUNWAY CONDITION _____

_____

_____

SUCCESS OR FAILURE _____

DAMAGE TO AIRCRAFT _____

_____

_____

INJURY _____

LIGHT CONDITION _____

TIME RUNWAY (CLOSED) _____ (OPEN) _____

ENGAGEMENT REGIME _____ AIRCRAFT TAIL NO. _____

ESTIMATED SPEED FROM PILOT _____

WEIGHT OF AIRCRAFT _____ PILOT'S NAME _____

PIT # _____ WAS REWIND PIN REMOVED _____

REEL TACHOMETER READING _____ BRAKE TACHOMETER READING _____

PILOT COMMENTS _____

_____

_____

_____

_____ _____

Signature of Individual Certifying Barrier Back In Service (Must be an AF Form 483 Card Holder)

Signature of Individual Making Report

CERTIFICATE OF COMPETENCY

CERTIFICATE NO. _____

_____

NAME (LAST, FIRST, MIDDLE INITIAL)

SIGNATURE _____ DATE _____

COMMAND _____

INSTALLATION _____

HAS SUCCESSFULLY COMPLETED THE PRESCRIBED COURSE OF INSTRUCTION AND/OR PRACTICAL TEST AS REQURIED BY CURRENT DIRECTIVES AND IS DEEMED QUALIFIED TO PERFORM THE DUTIES OF BAK-12/14 BARRIER CERTIFICATION AND INSPECTION.

I have been trained in the operation and inspection of the BAK-12/14 arresting barrier. I feel that I can competently, with the help of my team members, re-wind and put back into service the aircraft arresting system, IAW T.O. 35E8-2-5-1, Aircraft Arresting System BAK-12; T.O. 35E8-2-8-1, Hook Cable Support System BAK-14; and T.O. 35E8-2-5-IWC-1 Periodic Inspection Work Cards. I understand that it will be my responsibility during and after an engagement that the aircraft arresting barrier is called back in serice and that the aircraft arresting system is in the ready position for another engagement.

NAME, TITLE, AND ORGANIZAITON OF CERTIFYING OFFICIAL

_____

_____

(SIGNATURE)

BARRIER INSPECTION MAINTENANCE LOG

Pit # _____ SR # _____ Date _____

Type inspection _____ Work Order # _____

Type Maintenance _____

Components Replaced _____

_____

_____

Description _____

Quantity _____ NSN _____ Part # _____ Sr # _____

Engine Oil Changed ____ Oil Filter Changed ____ Air Compressor Oil Changed ____

Synchronized _____ Hydraulic Needlevalve Setting _____ Tape Cropped _____

Amount in Ft Cropped ____ Tape Changed ____ Pendant Changed ____ Support Disks ____

Blocks Changed Amount ____ Air Cylinder Changed ____ Which Boxes _____

Support Blocks Changed _____ Which Boxes _____

Special Information _____

_____

_____

_____

_____

_____

Person(s) Performing Inspection or Maintenance _____

_____

Total Hours Per Person _____

BAK 12/14 AIRCRAFT ARRESTING SYSTEM DAILY INSPECTION

Plt No. _____ MONTH _____

Serial No. _____ From _____ To _____

IAW T.O. 35E8-2-5-1 CHANGE

1. Inspect pendant cable for tension, wear, kinks, etc.
2. Inspect tape sweep area for FOD, debris and snow.
3. Check fluid level in reservoir. No less than 1/2 in glass sight.
4. Check static acccumulator press. (175 + 10) fluid 1/2.
5. Inspect position of CAM for zero index.
6. Check shuttle valve position (locked brakes).
7. Check oil in rewind engine and operate 10 minutes.
8. Check for hydraulic leaks and broken chains.
9. Operate sump pump.

BAK 14 PIT 3 ONLY

10. Check air compressor for operation and bleed water from air tank.
11. Check for air leaks in systems in pit on runway. Barrier down position.
12. During times of cold weather and snow, check that heaters in runway and pits are operational.
13. After raising the barrier, check that all support blocks are in good condition, not cracked or broken.
14. Inspect pendant cable where it comes out the runway trough to ensure that cable is not cut.

Report all UNSATISFACTORY conditions to the electrical power production technician and indicate on reverse of this form.

BARRIER ARRESTMENT INFORMATION

REEL R.P.M. _____ BRAKE PRESSURE _____

1	2	3	4	5	6	7	8	9	10	11
12	13	14	15	16	17	18	19	20	21	22
23	24	25	26	27	28	29	30	31		

Weekly Inspection	Date		Initials	Monthly Inspection	Date	Initials
	1					
	2					
	3					
	4					
	5					

POWER PRODUCTION TRAINING REQUEST/CLASS COMPLETION CERTIFICATION

PART A - NAMES OF INDIVIDUALS

Specify the names of individuals you wish trained by CE Power Production. Every effort will be made to accommodate these individuals. If training is requested for a specific date, indicate below.

(Cmdr/Supv Signature)

NAME	AF Form 483 Card No.	NAME	AF Form 483 Card No.

PART B -- TYPE OF TRAINING DESIRED. Indicate one per request.

( ) MB-16 Bld 40 ( ) D2300 Bld 26 ( ) D17000 Bld 20
( ) EMU-10/U Bld 24 ( ) AAS Engagement Procedures

Additional Comments:

Requested Training Date	Approx # Students:	COMMENTS:
Date of Request:		

PART C (Training Use Only)

Date Received:	Scheduled Training Date/Time:	Scheduled Training Date/Time:

Class Participation:	COMMENTS:
( ) Poor ( ) Fair ( ) Good ( ) Excellent	

LOCATION MANUFACTURER TAPE CONTRACT # MFG CH # DATE INSTALLED

Date	Maintenance Action/ Arrestment	*Regime/Engagement	Total Engage	Ft Tape Cropped	Ft Tape

* Regime I-1 Engagement, Regime II-4, Regime II-8, Regime IV-Replace Tape Immed. Total count 64 engagements -- Replace tapes.